

 AbstractPlus[« View Search Results](#) | [Next Article »](#)[BROWSE](#)[SEARCH](#)[IEEE XPLORE GUIDE](#) [Help](#)

Access this document

 Full Text: PDF (444 KB)

Download this citation

Choose  [Citation & Abstract](#)Download  [ASCII Text](#) [Learn More](#)[Rights and Permissions](#) [Learn More](#)

Multilingual phone recognition of spontaneous telephone

Corredor-Ardoy, C., Lamej, L., Adda-Decker, M., Gauvain, J.L.,
Lab. d'Inf. pour la Mecanique et les Sci. de l'Ingenieur, CNRS, Orsay, France;

This paper appears in: *Acoustics, Speech, and Signal Processing, 1998, ICASSP '98, 1998 IEEE International Conference on*

Publication Date: 12-15 May 1998

Volume: 1

On page(s): 413 - 416 vol.1

Number of Pages: 6 vol. Ixiii+3816

Meeting Date: 05/12/1998 - 05/15/1998

Location: Seattle, WA

ISSN: 1520-6149

ISBN: 0-7803-4428-6

INSPEC Accession Number:6033451

Digital Object Identifier: 10.1109/ICASSP.1998.674455

Posted online: 2002-08-06 21:40:28.0

Abstract

In this paper we report on experiments with phone recognition of spontaneous telephone :
recognizers were trained and assessed on IDEAL, a multilingual corpus containing teleph French, British English, German and Castilian Spanish. We investigated the influence of the composition (size and linguistic content) on the recognition performance using context-independent hidden Markov models (HMMs) and phonotactic bigram models. We found that when test speech data, using only spontaneous speech training data gave the highest phone accuracy across languages, even though this data comprises only 14% of the available training data. The dependent (CD) HMMs reduced the phone error across the 4 languages, with the average 51.9% from the 57.4% obtained with CI models. We suggest a straightforward way of dealing with phenomena. The basic idea is to remove sequences of consonants between two silence identified recognized phone strings prior to scoring. This simple technique reduces the relative average phone error by 5.4%. The lowest phone error with CD models and filtering was obtained for Spanish (3 language average being 49.1%.

Index Terms

Inspec

Controlled Indexing

[hidden Markov models](#) [speech recognition](#) [telephony](#)

Non-controlled Indexing

[British English](#) [Castilian Spanish](#) [French](#) [German](#) [HMM](#) [IDEAL](#) [multilingual](#) [context-dependent hidden Markov models](#) [context-independent hidden Markov filtering](#) [linguistic content](#) [multilingual phone recognition](#) [non-speech phonetic detection](#) [phonotactic bigram models](#) [relative average phone error rate](#) [spontaneous speech](#) [training material composition](#)

Author Keywords

Not Available

References

No references available on IEEE Xplore.

Citing Documents

No citing documents available on IEEE Xplore.

[« View Search Results](#) | [Next Article »](#)



[Help](#) [Contact Us](#) [Privacy](#)

© Copyright 2007 IEEE